

# 2001 ALABAMA STATE OF THE HEART REPORT

## Statistics for Cardiovascular Diseases, including County-by-County Mortality

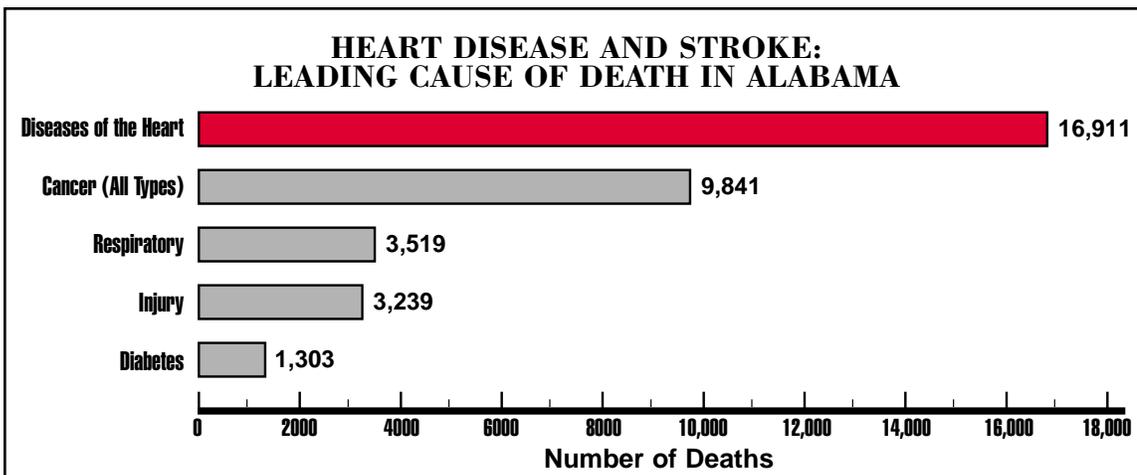
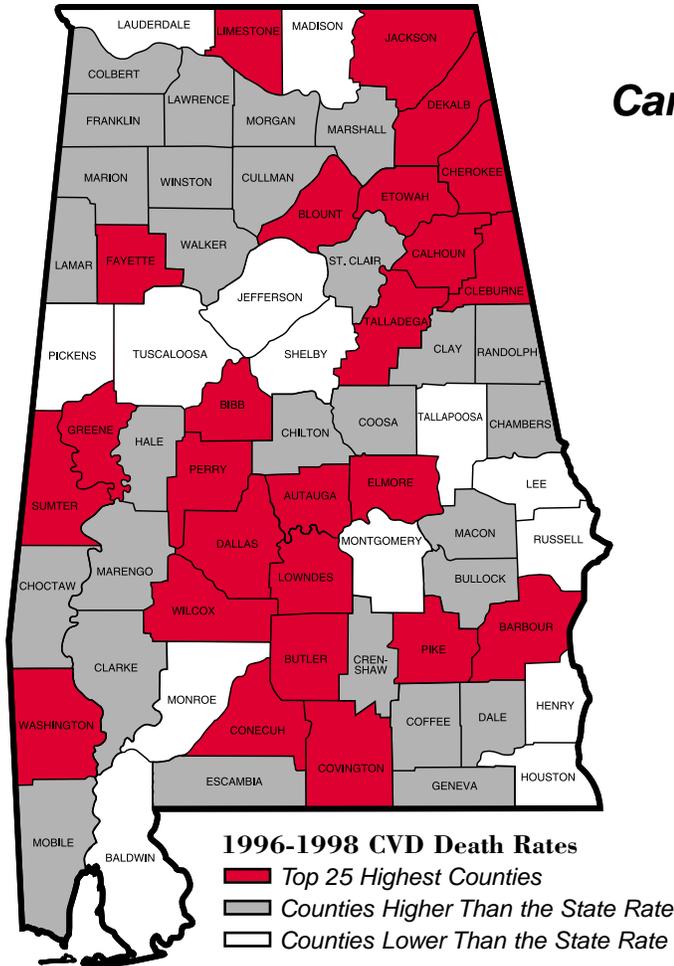
Cardiovascular disease (CVD), including heart disease and stroke, is the number one killer in every area of the state. More Alabamians die each year from CVD than from any other cause.

Published by:



Fighting Heart Disease and Stroke

Alabama  
Department of  
Public Health



*This report was prepared jointly by the Alabama Department of Public Health, and the American Heart Association, Southeast Affiliate.*

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# Executive Summary

## In Alabama in 1998:

- Cardiovascular disease (CVD), including heart disease and stroke, was the number one cause of death, accounting for approximately 40 percent of all deaths.
- CVD mortality rates were the seventh highest in the nation, and exceeded national mortality rates by approximately 12 percent.
- Cardiovascular diseases affected persons of all ages. CVD was among the five top causes of death for each age group.
- CVD accounts for a substantial amount of premature death, with more than 3000 of the CVD deaths being among persons less than 65 years of age.
- In absolute numbers, more women than men died of CVD.
- CVD mortality rates are 26 percent higher for blacks in Alabama, compared to whites. In addition, blacks who died of CVD were 3 times more likely to die before the age of 65 than their white counterparts.
- In the 1990s, CVD death rates declined for both blacks and whites, but the gap between the two groups did not narrow.
- A greater percentage of adults are overweight, physically inactive, and report being told they have high blood pressure compared to adults in the nation as a whole.

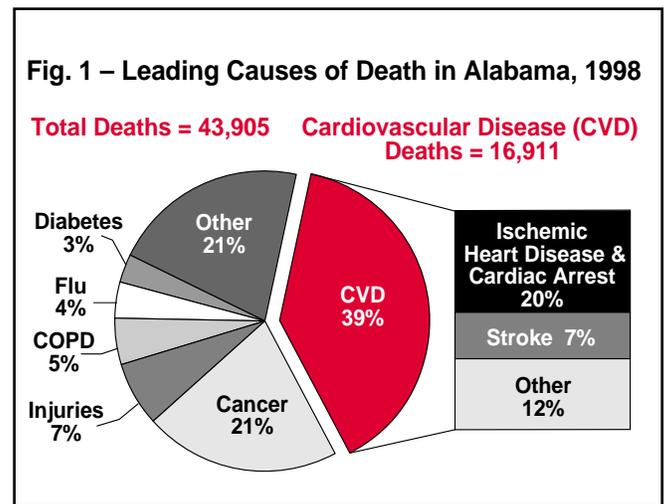
# Introduction

**C**ardiovascular disease (CVD) was the leading cause of death in Alabama in 1998, accounting for more than 16,900 deaths or approximately 40 percent of the state's deaths that year. CVD is also a major cause of costly hospitalization and disability in Alabama. Among our state's older citizens, CVD accounted for more than 75,000 hospitalizations and \$1.3 billion in hospital charges. According to the American Heart Association, CVD is a leading cause of disability in the nation.

Death rates from CVD have been declining in Alabama in the past decade but remain some 12 percent higher than national rates. Death rates from CVD in Alabama were approximately 26 percent higher for blacks than whites in 1998, and the discrepancy has been noted at least throughout the past decade. Black Alabamians who died of CVD were three times more likely to die prematurely, that is, before the age of 65.

Disability and death from CVD are related to a number of modifiable risk factors, including high blood pressure, high blood cholesterol, smoking, lack of regular physical activity, diabetes, and being overweight. By adopting healthier lifestyles, Alabamians can reduce much of the burden associated with CVD. Cardiovascular disease remains a serious public health threat.

This report describes the burden of CVD in Alabama. Its purpose is to provide a brief overview of CVD death rates in the past decade, identify those groups of citizens at greatest risk, report the approximate cost of CVD, and describe the prevalence of CVD risk factors in Alabama compared to the nation as a whole.

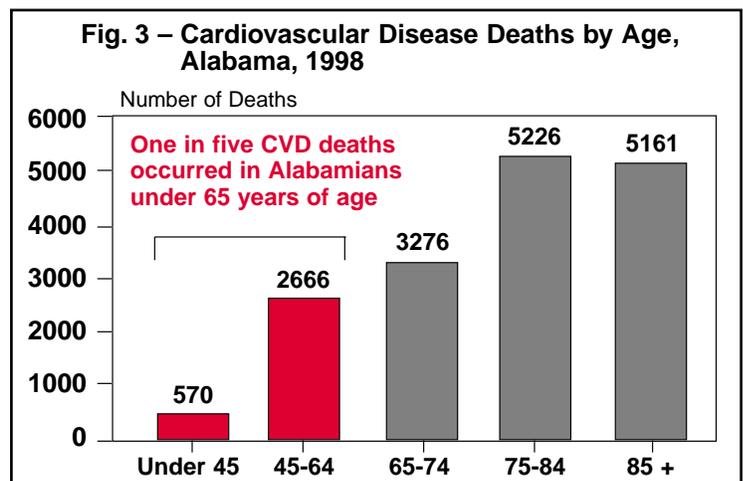
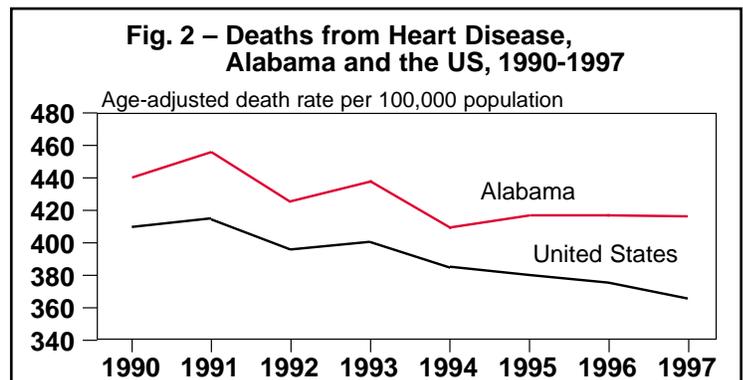


## Trends in Cardiovascular Disease in Alabama

**H**eat disease death rates in Alabama have exceeded national rates in every year since 1971. Mortality from cardiovascular disease (CVD) has declined in both Alabama and the United States (Figure 2), probably due to improvements in medical care and to healthier lifestyles. Nonetheless, Alabama's CVD mortality rates are ranked as the 7th highest in the nation by the American Heart Association. In the past decade, Alabama's mortality from cardiovascular disease has exceeded that of the nation as a whole by an average of 9 percent, although the gap has begun to widen in the most recent years.

Cardiovascular diseases affect persons of all ages in Alabama, with CVD being in the top five causes of death for each age group. Death from CVD is most common, of course, in older persons (Figure 3). However, CVD is not just a disease of old age. The process of arterial narrowing, called atherosclerosis, which is the cause of most heart attacks and strokes, can begin in the teenage years. The age at which blocked arteries cause death varies, and death from CVD can occur well before old age. In 1998, more than 3000 of Alabama's CVD deaths – nearly one in five – were premature deaths, occurring in Alabamians under the age of 65. More than 80 percent of those premature deaths occurred in individuals between 45 and 64 years of age, increasing the burden of CVD in terms of years of life lost and lost productivity.

Cardiovascular disease is also thought of as affecting men more often than women. In general terms, males have a higher risk of developing and of dying from CVD. However, in Alabama in 1998, more women than men died of CVD (8,965 women compared to 7,946 men). This finding contradicts the myth that CVD is primarily a male disease. Further, nearly twice as many women, both black and white, died of heart disease as died of cancer (Table 1).



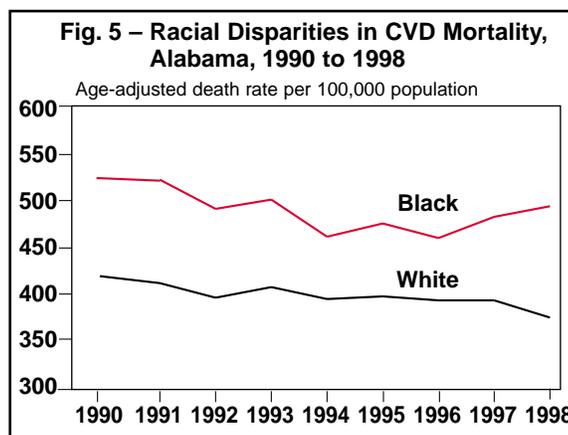
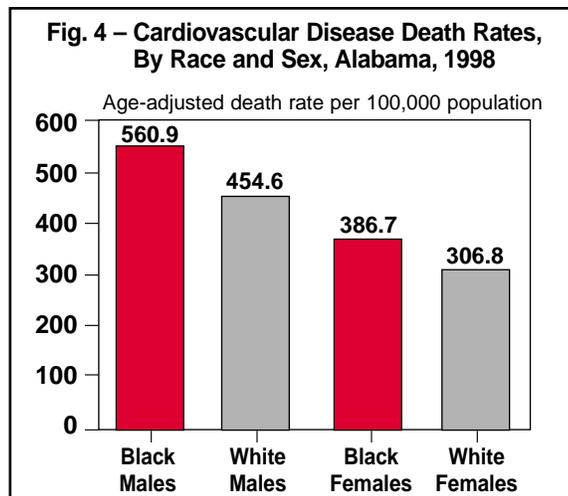
**Table 1 – CVD Deaths Among Women, Alabama, 1998**

	CVD Deaths		Cancer Deaths	
Black Women	2202	41%	1023	19%
White Women	6762	41%	3386	21%

# Racial Disparities in CVD in Alabama

The racial disparity in Alabama's CVD mortality is especially alarming. In 1998, CVD death rates were 23 percent higher for black men and 26 percent higher for black women, compared to their white counterparts (Figure 4). Over the past decade (Figure 5), the CVD death rate for blacks has consistently been higher than the rate for whites. The reasons for the higher rates among blacks are not well understood, but may be related to higher percentages of blacks with high blood pressure, or factors such as poor diet or decreased access to health care. However, it is encouraging to note that, over time, the rates for both blacks and whites have declined by about 12 percent.

In addition, the burden of premature death (before age 65) was not equally distributed by gender or race. African Americans dying of cardiovascular causes were approximately three times more likely to die prematurely than their white counterparts. The percentage of premature CVD death was higher among males than females overall and for both African Americans and whites (Table 2). Further, both black males and females experienced a larger percentage of premature CVD deaths than their white counterparts. The discrepancy was particularly striking among females, with the proportion of premature CVD deaths among black females being twice the proportion among white females.



**Table 2 – Premature Cardiovascular Deaths in Alabama by Race and Sex, 1998**

	Percent of CVD Deaths Before Age 65 Years
Black Males.....	39%
White Males.....	26%
Black Females.....	22%
White Females .....	11%

## Cost of Cardiovascular Disease in Alabama

Medicare inpatient data indicates that there were more than 75,130 admissions to treat CVD in Alabama hospitals. These admissions totaled more than 389,319 days in the hospital for Alabama residents, with an average of 5.2 days per hospital visit. Approximately \$1.3 billion dollars were incurred in hospital charges during these visits.

Overall, it is estimated that the cost of treating cardiovascular disease in Alabama may be more than \$5.2 billion annually. These figures, derived from national costs estimated by the American Heart Association, include both direct costs (such as hospital and nursing home charges, physician charges, medications, and home health supplies and services) and indirect costs (such as lost wages and lost productivity).

## Cardiovascular Disease Statistics by County

For each Alabama county, Table 3 (next page) shows the number of CVD deaths, the percentage of all deaths caused by CVD, and CVD death rates for the three-year period 1996 through 1998. Cumulative death rates were calculated for the three-year period because counties with small populations had too few deaths to calculate an accurate rate for a single year. Caution should be used in comparing rates from one county to another, because counties with small populations are more likely to have wide variations in death rates across years simply by chance.

- Four interesting comparisons emerge from this table:
- In each of the 67 counties, more people died of CVD than of cancer in 1998.
  - In every county, more women died of CVD than of breast cancer.
  - In 47 of the 67 counties, more women than men died of CVD, even though men have a greater risk of developing CVD. This is likely due to the fact that women tend to live longer than men, and CVD is more common among older people. Thus, more women than men die of CVD.
  - The lowest CVD mortality rates in the state are found in the more urban counties. This may be due, in part, to faster access to medical care in the case of a severe event, such as heart attack or stroke.

**TABLE 3 – CARDIOVASCULAR DISEASE DEATH RATES BY COUNTY**

	CVD DEATHS					CANCER DEATHS		
	CVD Deaths 1998	Percentage All Deaths 1998	Cumulative Death Rate 1996-98	CVD Deaths Male 1998	CVD Deaths Female 1998	Cancer Deaths All Forms 1998	Percentage All Death 1998	Breast Cancer Deaths 1998
<b>All Alabama</b>	<b>16,911</b>	<b>39%</b>	<b>385.9</b>	<b>7,946</b>	<b>8,965</b>	<b>9,687</b>	<b>22%</b>	<b>655</b>
Autauga	154	41%	473.7	67	87	89	24%	8
Baldwin	491	38%	323.1	245	246	307	23%	21
Barbour	133	47%	447.1	65	68	42	15%	3
Bibb	82	43%	518.0	42	40	45	23%	2
Blount	195	41%	450.4	91	104	90	19%	4
Bullock	50	39%	405.8	21	29	27	21%	4
Butler	108	43%	477.3	57	51	48	19%	3
Calhoun	506	40%	448.0	239	267	306	24%	11
Chambers	164	37%	436.0	75	89	104	23%	3
Cherokee	105	42%	462.4	47	58	52	21%	2
Chilton	149	36%	423.1	85	64	98	24%	8
Choctaw	73	45%	416.3	34	39	39	24%	4
Clarke	104	39%	428.0	51	53	75	28%	9
Clay	75	45%	386.6	34	41	33	20%	3
Cleburne	57	36%	449.3	29	28	38	24%	0
Coffee	204	43%	388.1	97	107	116	24%	9
Colbert	240	43%	427.6	98	142	134	24%	8
Conecuh	83	46%	509.1	40	43	39	22%	3
Coosa	48	40%	419.8	23	25	21	18%	1
Covington	195	41%	442.4	87	108	115	24%	6
Crenshaw	77	38%	430.9	32	45	42	21%	2
Cullman	334	44%	395.2	175	159	152	20%	8
Dale	167	41%	400.5	77	90	92	22%	5
Dallas	203	34%	452.0	93	110	142	24%	7
DeKalb	299	45%	474.9	141	158	134	20%	11
Elmore	206	38%	440.7	106	100	119	22%	14
Escambia	171	39%	428.3	88	83	88	20%	10
Etowah	504	39%	441.2	239	265	286	22%	14
Fayette	110	45%	495.1	56	54	54	22%	2
Franklin	145	41%	433.5	61	84	78	22%	3
Geneva	130	40%	412.1	59	71	62	19%	3
Greene	56	47%	490.6	28	28	24	20%	0
Hale	72	37%	401.4	29	43	53	27%	6
Henry	77	46%	385.0	42	35	34	20%	1
Houston	336	40%	368.0	146	190	192	23%	11
Jackson	194	39%	493.8	102	92	123	25%	4
Jefferson	2549	35%	372.5	1094	1455	1535	21%	113
Lamar	81	42%	393.3	42	39	43	22%	5
Lauderdale	300	35%	339.6	134	166	197	23%	10
Lawrence	116	37%	439.1	52	64	89	28%	2
Lee	264	38%	375.3	125	139	172	25%	11
Limestone	340	61%	642.2	174	166	55	10%	6
Lowndes	65	49%	544.7	29	36	19	14%	0
Macon	109	41%	430.1	53	56	61	23%	2
Madison	815	39%	382.8	382	433	484	23%	34
Marengo	105	42%	435.7	51	54	37	15%	4
Marion	156	43%	400.2	85	71	72	20%	8
Marshall	345	38%	410.3	173	172	200	22%	13
Mobile	1502	38%	407.6	676	826	910	23%	60
Monroe	85	34%	340.0	35	50	51	21%	2
Montgomery	735	36%	357.1	354	381	477	23%	38
Morgan	399	39%	392.3	195	204	216	21%	17
Perry	53	41%	446.1	30	23	24	18%	2
Pickens	98	40%	383.0	48	50	64	26%	1
Pike	132	44%	472.6	57	75	61	20%	4
Randolph	111	43%	394.6	59	52	48	18%	0
Russell	130	24%	321.2	60	70	128	24%	2
St. Clair	221	40%	401.0	105	116	128	23%	6
Shelby	224	28%	320.4	116	108	198	25%	21
Sumter	87	45%	451.2	35	52	35	18%	1
Talladega	338	41%	484.4	172	16	148	18%	10
Tallapoosa	167	33%	362.9	79	88	93	18%	7
Tuscaloosa	498	37%	349.0	237	261	321	24%	30
Walker	340	40%	438.2	166	174	195	23%	12
Washington	87	47%	521.0	43	44	38	20%	3
Wilcox	56	33%	456.2	35	21	42	25%	5
Winston	106	39%	396.2	49	57	53	19%	3

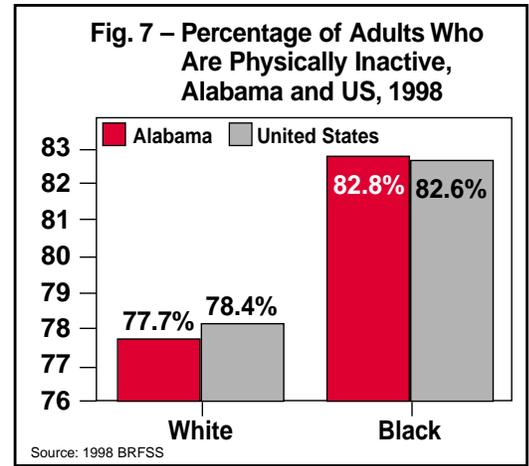
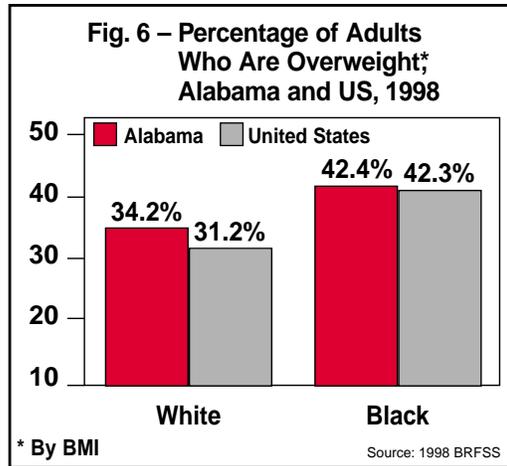
# Cardiovascular Disease Risk Factors

Clearly, cardiovascular disease (CVD) poses a serious problem for Alabama citizens, both in terms of mortality and treatment costs. Prevention of CVD is of key importance to reduce the burden felt by the state and to improve the quality of life for our citizens. Research and clinical practice have helped us identify the most common risk factors for CVD. Some CVD risk factors cannot be changed, such as old age, being male, having a family history of heart disease at a young age, and having had a previous history of heart attack or stroke. Individuals with one or more of these non-modifiable risk factors should be particularly diligent in avoiding other risk factors – the risk factors that may be modifiable.

The modifiable risk factors for CVD include smoking, high blood pressure, high blood cholesterol levels, diabetes, being overweight, and lack of physical activity. The trends in CVD death rates nationally and in Alabama may be related to the trends in CVD risk factors.

## Physical Inactivity and Being Overweight

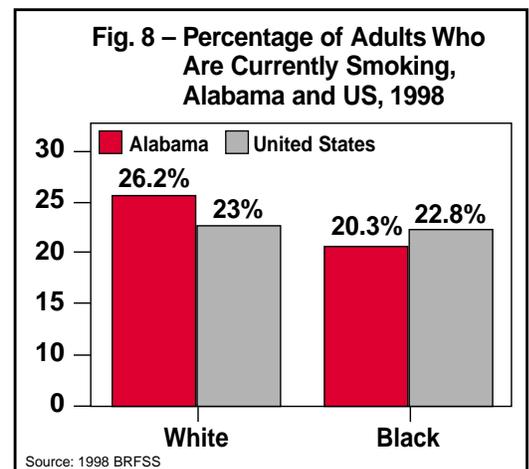
Many Alabamians are overweight and are not physically active on a regular basis (Figures 6 and 7). Eight out of 10 Alabama adults do not get regular physical activity (at least 30 minutes of moderate intensity activity, such as walking at a brisk pace, at least five days a week). There has been a steady increase in the percentage of overweight adults in Alabama (body mass index greater than 25.0). Between 1990 and 1998, the prevalence of overweight Alabamians increased from 34 percent to 38 percent.



Losing weight and being physically active on a regular basis can have very positive effects on health status and risk for CVD. Blood pressure and cholesterol levels can be lowered and the chances of developing diabetes can be lessened. All of these conditions are risk factors for heart disease.

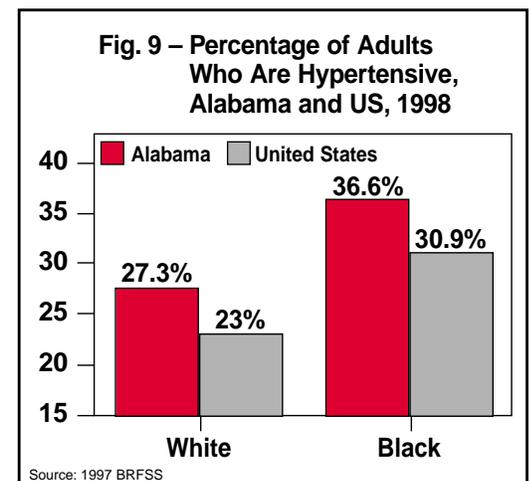
## Smoking

The prevalence of smoking among Alabamians has also increased from 22 percent in 1990 to 25 percent in 1998. National smoking rates have remained relatively stable at 23 percent over the same period. Lowering smoking rates is a national public health priority. In addition to the well-known link with cancer, smoking is a major CVD risk factor. In fact, each year smoking causes more deaths from heart attacks than from cancer. The good news is that giving up smoking rapidly reduces one's risk of developing CVD. Within five years, the chances of having a heart attack are 50 to 70 percent lower for former smokers, compared to current smokers. Beyond getting current smokers to quit, it is equally important to prevent people, especially young people, from starting to smoke.



## High Blood Pressure

High blood pressure is a major risk factor for both heart disease and stroke. The percentage of Alabamians who reported having been told they had high blood pressure exceeds the national percentage for both blacks and whites. Some people are able to control their high blood pressure by losing weight and exercising regularly. For those who are unable to decrease their blood pressure by lifestyle modifications alone, medications prescribed by a physician can treat high blood pressure successfully.



# Conclusions

**T**his report summarizes the most recent information available on cardiovascular disease (CVD) deaths, costs, and risk factors in Alabama. The death rate from CVD in Alabama is among the highest in the nation. In addition, CVD accounts for a substantial number of premature deaths each year, and even though CVD is considered a man's disease, more women than men die of CVD causes in Alabama. The most important finding of this report is the disparity that exists in CVD mortality and risk factors between blacks and whites in Alabama. It is not possible to explain completely the reason for the difference in CVD status between blacks and whites in Alabama, but factors such as increased rates of disease risk factors and decreased access to health care are issues that put our black citizens at higher risk for CVD.

The practical implications of these findings are clear. We must be diligent in our efforts to ensure that each of Alabama's citizens has full access to knowledge about their CVD risks, to adequate health care to identify and treat problems early, and to the knowledge and supports they need to establish and maintain healthy lifestyles. In addition, because the physiological process of heart disease begins at an early age, we must make a greater effort to reduce the prevalence of risk factors among all Alabamians, and particularly our young people. Reducing CVD risk factors involves not smoking, eating a healthy diet, engaging in regular physical activity, controlling high blood pressure, managing diabetes, and reducing blood cholesterol.

Much of the death and disability associated with CVD is preventable. If we focus attention on realistic ways of reducing risk, we can reverse negative trends and reduce the number of individuals who suffer and die from cardiovascular disease.



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## Methods and Definitions

### Methods

ICD9 codes for the disease categories are 1) CVD: 390-448; 2) Cancer: 140-239; 3) Stroke: 430-438; 4) Injuries: E800-E999; 5) Respiratory: 490-496, 480-487; 6) Diabetes: 250; 7) Pneumonia and Influenza: 480-487; 8) Other: all disease codes not already categorized.

Information on Alabama deaths was obtained from the Center for Health Statistics, Alabama Department of Public Health.

Information on national deaths was obtained from the National Center for Health Statistics, Centers for Disease Control and Prevention. CVD death rates were age-adjusted using the direct method: the year 2000 standard (National Vital Statistics Reports, Vol. 47, No. 3, October 7, 1998) was used as the standard. The source of Alabama population estimates was the Centers for Disease Control and Prevention

([www.wonder.cdc.gov](http://www.wonder.cdc.gov)).

Age-adjusted three-year death rates for counties were calculated by summing deaths across the 3-year period and dividing by the mid-year population total. Rates thus calculated should be compared only within the table and not compared to death rates computed on annual basis.

### Definitions

**Age-adjusted death rate** A rate calculated in a manner that allows for the comparison of rates derived from populations with different age structures.

**Cardiovascular disease** This term describes a wide variety of diseases of the heart and blood vessels, including heart attacks, heart failure, high blood pressure, stroke, and rheumatic heart disease.

Information on risk factors was obtained from the Alabama Behavioral Risk Factor Surveillance System, a telephone survey conducted annually on a representative sample of adults in each of the 50 states. National percentages are the median value for all states. CVD risk factors were defined as follows:

**Physically inactive:** Defined as not getting either at least 30 minutes of moderate intensity physical activity 5 or more days a week, or getting at least 20 minutes of vigorous physical activity 3 or more days a week.

**Overweight:** Defined as a body mass index (BMI) greater than 25.0 kg/m<sup>2</sup>. Using weight (in kilograms) and height (in meters), BMI equals weight divided by the square of the height. Using weight (in pounds) and height (in inches), BMI equals 705 times weight divided by the square of the height.

**Current smoking:** Defined as someone who has smoked at least 100 cigarettes in one's lifetime and smokes now.

**High blood pressure:** Defined as having been told by a health professional that one's blood pressure was high.

**Prevalence** The percentage of a population that has a disease or a risk factor at a specific point in time.

**Risk factor** A behavior, characteristics, or finding on clinical examination that is consistently associated with increased probability of a disease or complications from that disease.

## Knowing the Signals of a Heart Attack Could Save Your Life:

- Uncomfortable pressure, fullness, squeezing, or pain in the center of the chest lasting two minutes or longer.
- Pain spreading to the shoulders, neck, or arms.
- Severe chest pain, lightheadedness, fainting, sweating, nausea or shortness of breath.

## The Chain of Survival Saves Lives



- Recognize the warning signs and call 9-1-1 immediately.

- Give CPR.

- Provide early defibrillation with an automated external defibrillator (AED).

- Get early advanced emergency care.

About 225,000 Americans die of sudden cardiac arrest each year.

## HeartStrokeBriefs

For more information, call 1-800-AHA-USA1 or visit [www.americanheart.org](http://www.americanheart.org)

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Fighting Heart Disease and Stroke

## Reduce Your Risk for Heart Disease and Stroke

**Don't smoke cigarettes.** Tobacco use is the number one preventable cause of heart disease in the U.S. Tobacco makes your blood clot easier, stiffens the walls of your arteries, and deprives your heart of needed oxygen. The message is simple: If you use tobacco, stop; if you don't use tobacco, don't start.

**Stay active.** Moderate physical activity (such as walking, yard work, climbing stairs) for a total of 30 minutes a day most days a week helps keep your weight down, allows your body to get rid of "bad" cholesterol, and can help keep your blood pressure under control. Recent research shows that you don't have to do your daily allotment of physical activity at once. Ten or fifteen minutes at a time will do the trick, as long as it adds up to a least 30 minutes most days of the week. It's really simple: just make physical activity a regular part of your life.

**Eat less fat.** Dietary fats, especially animal fats, pose another big threat to your heart. The American Heart Association recommends that you keep your fat intake to less than 30% of total calories, including no more than 10% of calories from animal or saturated fats. Use the FDA "Nutrition Facts" on food labels to help you cut down on your fat intake. The American Heart Association also has free dietary recommendations.

**Check your blood pressure.** Uncontrolled high blood pressure is a leading risk factor for stroke, which is like a heart attack, only in the brain. Stroke is a leading cause of disability and the third leading cause of death in Alabama. If your blood pressure is normal, get it checked at least every two years.

**If your blood pressure is 130/85 or over, consult a physician.** He or she can help you get it under control.

**Check your cholesterol level.** If your cholesterol is normal (less than 200), get it checked every five years. If it's high, see your doctor about getting it under control. Eating foods that contain no cholesterol, such as fruits and vegetables, and staying physically active are two easy ways to keep your cholesterol low.

**Recognize and treat diabetes.** Having diabetes (high blood sugar) can seriously increase your risk of stroke and heart disease. If you have diabetes, you can prevent or delay heart disease by controlling your weight, cholesterol, and blood pressure.

**Know your family's heart history.** Heart disease often runs in families. If your family has a history of heart disease, you may be at increased risk. If so, don't despair. You can readily reduce that risk by taking action now with the above steps. Your family will thank you for it.

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### Southeast Affiliate

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Call toll-free 1-800-AHA-USA1 for answers to your questions about heart disease and stroke, brochures, CPR classes, or donations.

For information about your American Heart Association in Alabama, Georgia, Louisiana, Mississippi or Tennessee, call 1-888-352-3824.

See our internet website at [www.americanheart.org](http://www.americanheart.org)

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